

“The robust and proven FUJITSU ETERNUS DX storage technology is positively predestined for SAP HANA environments. We benefit from very fast load times, which ensures high system performance.”

Bernhard Lingner
Service Management
Siemens AG GS IT

Fujitsu has developed and implemented a high-performance infrastructure for SAP HANA systems at Siemens AG Global Services Information Technology (GS IT), based on ETERNUS DX storage solutions.

At a glance

Country: Germany
Industry: Technology
Founded: 1847
Website: www.siemens.com



Challenge

Siemens is one of the first companies to migrate a large part of its SAP landscape to SAP HANA. To do this, the company group needs an infrastructure consisting of high-performance storage systems and enterprise servers.

Solution

Working closely together with Siemens, Fujitsu developed a suitable infrastructure as the hardware base for the SAP HANA systems (HANA Power Block) and implemented it at Siemens. Powerful FUJITSU ETERNUS DX600 storage solutions and FUJITSU Server PRIMERGY systems form the heart of the solution.

Benefit

- Stable and high-performance operation of the SAP HANA architecture
- Fast load times and high throughput rates of the ETERNUS DX600 systems
- Flexible and rapid capacity expansion, thanks to a high degree of scalability
- Snapshot-based provision of test systems in just a few minutes, regardless of size
- Easy provision of self-services, thanks to standardized infrastructures

Customer

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for 170 years. The company is active around the globe, focusing on the areas of electrification, automation and digitalization. In fiscal 2018, which ended on September 30, 2018, Siemens generated revenue of 83.0 billion euros and net income of 6.1 billion euros. At the end of September 2018, the company had around 379,000 employees worldwide.



Products and services

- 100 x FUJITSU Server PRIMERGY RX4770
- 5 x FUJITSU Server PRIMEQUEST 2800
- 5 x FUJITSU Storage ETERNUS DX600, each including 480 HDDs with 900 GB SED (HANA production)
- 1 x FUJITSU Storage ETERNUS DX200 as the HANA test system
- BROCADE SAN/LAN infrastructure
- Firewall systems
- Consulting and design services

Innovative and future-proof platform for mission-critical applications

Siemens AG operates approximately 200 SAP systems that map mission-critical key applications in its main data center in Munich. The group planned to upgrade a large part of its SAP environment to SAP HANA and to provide additional SAP HANA systems. "Our goal was to implement innovative database technology with SAP HANA, which would serve as a powerful and future-proof platform for our mission-critical applications over the long term," remembers Bernhard Lingner, who is responsible for Service Management at Siemens. This objective required high-performance hardware components and enterprise servers that ensured stable and fail-safe operation of the SAP HANA environment. To provide optimum support for the in-memory technology, the systems had to permit extremely fast load times and high throughput rates, despite rapidly growing storage volumes. Another key requirement was a high degree of scalability, so that the infrastructure could be expanded flexibly at any time, if needed. An innovation project in partnership between Siemens and Fujitsu was intended to ensure the high-quality, rapid and automatable installation of the new system landscape.

HANA Power Block as a solid tailored data infrastructure (TDI)

To meet these requirements, the Siemens data center team and experts from Fujitsu worked closely together to develop the corresponding technical solution steps. The project was divided into two phases: The first segment involved the precise definition of requirements and preparation of possible solutions. The parties involved also specified target systems and designed an SAP HANA architecture. The necessary hardware base, the so-called HANA Power Block, was designed and implemented on this basis as a tailored data infrastructure. When constructing the SAP HANA infrastructure, it turned out that an SAN-based solution had significant benefits over NAS systems. In a proof of concept process, the FUJITSU ETERNUS DX series won out over all competitor systems as a superior storage system.

The second phase of the project focused on implementing the ETERNUS snapshot technology, which makes it possible to immediately restart large databases at any time. This enables a volume of 860 terabytes of compressed HANA data to be backed up and restored in just a few minutes, thanks to the high-performance ETERNUS DX technology. In comparison, a restart based on conventional backup methods takes several hours. The snapshot technology is also used to generate copies of the system quickly and easily. Thanks to the automated provisioning of storage infrastructure, including snapshot and clone technology, the necessary SAP HANA systems can be provided very quickly. The skills of the two project partners complement each other perfectly: While the

Siemens team focused on operating the data center, Fujitsu's specialists were responsible for developing the infrastructure solution.

ETERNUS storage technology is predestined for SAP HANA environments

Five FUJITSU ETERNUS DX600 storage solutions, each with 480 HDDs, ensure the stable operation of the SAP HANA architecture. In addition, 100 FUJITSU PRIMERGY RX4770 and five FUJITSU PRIMEQUEST 2800 servers make sure that the data is processed efficiently and reliably. "The robust and proven ETERNUS DX storage technology is positively predestined for SAP HANA environments. We benefit from very fast load times, which ensures high system performance. We can also expand the capacities quickly and flexibly as our requirements grow," Bernhard Lingner acknowledges. Another benefit is that self-services for users can be easily implemented, thanks to the now uniform, standardized landscape. For example, users can close systems on their own within one hour. Internal Siemens departments that use IT services of the data center can adapt their own parameters and build classic SAP systems. While four separate teams used to be needed for the areas of storage, server, SAP and ESX, the IT departments can now manage all processes themselves with little effort. This puts them in a position to act independently, faster and more agilely, which relieves the workload of the data center team.

"After operating for a period of five years, the HANA Power Block is now about to be refreshed in 2019 within the innovation cycles. In this regard, we are looking forward to further professional support and to work in partnership with the Fujitsu experts," Bernhard Lingner says of the future prospects.

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